

## CHAPTER 15

# TELEWORK AND WORK–FAMILY CONFLICT ACROSS WORKPLACES: INVESTIGATING THE IMPLICATIONS OF WORK–FAMILY- SUPPORTIVE AND HIGH-DEMAND WORKPLACE CULTURES

Anja-Kristin Abendroth and Mareike Reimann

### ABSTRACT

*The aim of this chapter is to investigate the context dependence of the implications of telework for work–family conflict. It examines whether and how the implications of telework for strain-based and time-based work–family conflict depend on work–family-supportive and high-demand workplace cultures. Based on a sample of 4,898 employees derived from a unique linked employer–employee study involving large organizations in different industries in Germany, multilevel fixed-effects regressions were estimated.*

*The results show that telework is associated with perceived higher levels of both time-based and strain-based work–family conflict, and that this is partly related to overtime work involved in telework. However, teleworkers experience higher levels of work–family conflict if they perceive their workplace culture to be highly demanding, and lower levels if supervisor work–family support is readily available.*

*Future research is required to investigate how the conclusions from this research vary between heterogenous employees and how work–family-supportive and high-demand workplace cultures interrelate in their implications on the use of telework for work–family conflict.*

*The findings show how important it is to implement telework in a way that not only accommodates employers' interest in flexibilization, but that it also makes it possible to reconcile work with a family life that involves high levels of responsibility.*

*This is the first study which examines whether telework is either a resource that reduces or a demand that promotes work–family conflict by focusing on whether this depends on perceived workplace culture.*

**Keywords:** Telework; workplace conflict; work–life balance; workplace culture; time-based working; workplace stress

## INTRODUCTION

Research has long acknowledged the close relationship between work and family life, and a growing number of studies have investigated possible conflicts that arise from incompatible responsibilities in these two life spheres (e.g., Allen, Golden, & Shockley, 2015; Gajendran & Harrison, 2007). However, changes in workplaces and families are making it increasingly difficult to balance work and family life, with employees facing continuous change, insecurity, work intensification, and flexibility requirements (e.g., Bailyn, 2006; Cha & Weeden, 2014; Kossek, 2016), and changes in families involving greater female labor market participation and living conditions that are becoming ever more heterogeneous and dynamic (e.g., Meyer, 2011; Treas & Drobníè, 2010).

The aim of this study is to investigate the implications of telework for work–family conflict depending on work–family-supportive and high-demand workplace cultures in Germany. Telework, which is defined as work outside the office that is connected to the workplace via telecommunications or computer technology (Lautsch et al., 2009), is becoming an increasingly important issue in the debate about the successful integration of work and family life given that new developments in digital technology, such as mobile communication devices, digital networks, and data clouds, which allow for data access from any Internet-enabled device, make telework available for a growing number of employees (Kossek, 2016). Telework has been extensively discussed as a work arrangement that makes it possible to reorganize work so as to reduce the likelihood of conflict between work and family life by relocating parts of the working hours to outside the office (e.g., Allen et al., 2015; Gajendran & Harrison, 2007; Kossek, Lewis, & Hammer, 2010; Peters & Den Dulk, 2003). However, increases in work intensification have given rise to concerns that flexible workplace arrangements such as telework are used in the interest of employers to pursue their work intensification interests ultimately increasing conflicts between the life domains of employees (e.g., Chung, 2017a, 2017b; Lott & Chung, 2016; Lott, 2015).

Accordingly, research results concerning the implications of the use of telework to reduce work–family conflict have been inconclusive (for reviews, see [Allen et al., 2015](#); [Gajendran & Harrison, 2007](#)). With regard to Germany, [Fasang et al. \(2016, p. 121\)](#) further note that this stream of research is still largely missing due to the lack of adequate data bases. First evidence by [Lott \(2015\)](#) suggests that German employees benefit less from schedule control regarding the fit between individuals' working time and their time needs outside work than do employees in other European countries, specifically the Netherlands and Sweden. [Abendroth and den Dulk \(2011\)](#), however, find no significant association between telework and work–family conflict for a European sample of employees. [Allen et al. \(2015\)](#) conclude from their literature review that “there is little empirical evidence to suggest that telecommuting is a generally effective way to mitigate work–family conflict” (p. 46). Instead, the effect of telework appears to be context-dependent (e.g., [Allen et al., 2015](#); [Gajendran & Harrison, 2007](#)).

Starting from this conclusion, this research contributes to existing research in several ways. First, this is the first study which examines whether telework is either a resource that reduces or a demand that promotes work–family conflict by focusing on whether this depends on perceived workplace culture (work–family-supportive or high-demand). Work–family support from supervisors and colleagues, which has been referred to as cultural work–family support in workplaces ([Kossek et al., 2010](#)), is known to reduce work–family conflict (for reviews, see [Byron, 2005](#); [Kossek, Pichler, Bodner, & Hammer, 2011](#)) and to be important when it comes to using and accessing flexible work arrangements ([Allen, 2001](#); [Hammer, Kossek, Yragui, Bodner, & Hanson, 2009](#); [Peters & Den Dulk, 2003](#)). High-demand workplace cultures in which employees are expected to work overtime, be constantly available, and be able to withstand stress have been described to be on the rise (e.g., [Bailyn, 2006](#); [Cha & Weeden, 2014](#); [Kossek, 2016](#)) fostering the likelihood that telework is used for work intensification interests of employers.

Second, the authors introduce a new, ambitious research design to the study of the implications of telework. Data from the Linked Employer–employee Panel Survey (LEEP-B3) (see [Diewald et al., 2014](#)), which are organized around a representative sample of large German work organizations (i.e., organizations with more than 500 employees) and a simple random sample of their employees is used. Conducting organizational fixed-effects analysis based on these unique linked employer–employee data for large German workplaces enables us to compare work–family conflict among employees who do and do not do telework, statistically controlling for unobserved heterogeneity across workplaces. By using this multilevel approach, it is taken into account that individuals are nested in workplaces which has rarely been considered in previous research ([Allen & Martin, 2017](#)).

Third, this extensive set of data provides detailed information on both the work and personal lives of employees. Since previous research has consistently shown that the availability and the use of telework highly depend on differences in family contexts, in occupations and in individual job demands and resources ([Allen et al., 2015](#); [Gajendran & Harrison, 2007](#)), using this unique data allows us to examine the relationship between telework and work–family conflict for a broad workforce controlling for individual and occupational heterogeneity.

The article is structured in the following way. The theory chapter first introduces the well-established concept of work–family conflict to describe the interdependencies of work and family life (see [Greenhaus & Beutell, 1985](#)). Afterwards two perspectives on telework are contrasted, addressing telework as either a resource that reduces or a demand that increases the likelihood of time-based and strain-based work–family conflict. The theory chapter ends with specifying the role of work–family-supportive and high-demand workplace cultures in the relationship between telework and work–family conflict. The Data and Methods section provides a detailed overview of the LEEP-B3 data, measurements and ethical considerations, and specifies hierarchical linear fixed-effects regression models with interaction effects of telework and perceived work–family-supportive and high-demand workplace cultures as the method of analysis. Afterwards the results are presented. In the final section the research results are discussed and the chapter ends with final conclusions, limitations, and perspectives for future research.

## **THE IMPLICATIONS OF TELEWORK FOR WORK–FAMILY CONFLICT IN DEPENDENCE ON WORK–FAMILY-SUPPORTIVE AND HIGH-DEMAND WORKPLACE CULTURES**

### *Work–Family Conflict*

The well-established concept of *work–family conflict* is used to describe the interdependencies of work and family life (see [Greenhaus & Beutell, 1985](#)). Work–family conflict is “a form of interrole conflict in which the role pressures from the work and family domains are mutually incompatible in some respect” ([Greenhaus & Beutell, 1985](#), p. 77). This definition stresses the bidirectional relationship between work and family life, which means that work may interfere with family life, and vice versa. In addition, Greenhaus and Beutell distinguish time-based and strain-based conflicts between the two life domains. Time-based conflict occurs when time pressure in one domain makes it difficult to fulfil expectations in the other, whereas strain-based conflict is understood as exposure to stress in one domain, which influences the ability to perform in the other.

In the following section, two perspectives on the implications of telework for work–family conflict are described, addressing telework as either a resource that reduces or a demand that increases the likelihood of time-based and strain-based work–family conflict. The authors then illustrate that telework may be either a resource or a demand, depending on perceived workplace culture.

### *Telework: A Resource or a Demand?*

The job demands–resources model ([Bakker & Demerouti, 2007](#); [Bakker, Demerouti, & Verbeke, 2004](#); [Demerouti, Bakker, Nachreiner, & Schaufeli, 2001](#)) suggests that demands in the domains of work and family life influence an employee’s risk of experiencing stress and strain that then spill over from one life

domain to the other, resulting in work–family conflict. Job demands include the physical, mental, social, and organizational aspects of a job that require effort and skills and are therefore associated with certain physical or mental costs (Bakker & Demerouti, 2007). However, the job demands–resources model also emphasizes the important role of workplace resources that can mitigate or even prevent negative consequences of job demands, thus helping employees to reconcile work and family life (Bakker & Demerouti, 2007). Telework has been described as such a resource, because it allows for more flexible adjustments that decrease the likelihood of conflict between the two life domains (e.g., Abendroth & den Dulk, 2011; Abendroth, Van der Lippe, & Maas, 2012; Behson, 2005; Den Dulk, 1999; Den Dulk & Peper, 2007; Goh, Ilies, & Wilson, 2015; Kossek et al., 2011; Peters & Den Dulk, 2003; Wiebusch, Den Dulk, & Abendroth, 2017). In line with this, work–family border theory (Clark, 2000) and boundary management theory (Kossek et al., 2006) clarify that having control over one’s schedule allows for flexible adaptation of the timing of work demands to family obligations (see also Chung, 2017a, 2017b). More specifically, telework helps to reorganize work so as to make it more compatible with other family obligations such as childcare; for example, telework saves time that would otherwise be spent on commuting and allows for more autonomous work organization, enabling employees to respond to family demands, whether they concern everyday activities (e.g., taking children to team sport training) or unpredictable occurrences (e.g., a child’s illness) (for a review, see Gajendran & Harrison, 2007). In line with the job demands–resources model, work–family border theory and boundary management theory it is expected that telework is associated with lower levels of work–family conflict.

Alternatively, work flexibilization in time and place has been described as a workplace demand involving employer expectations on constant availability and overtime work (Burchell, Fagan, O’Brien, & Smith, 2007; Felstead & Jewson, 2000; Gallie, Zhou, Felstead, & Green, 2012; Gambles, Lewis, & Rapport, 2006; Kelliher & Anderson, 2010; Lott & Chung, 2016). Telework can also be used to meet employers’ flexibilization and work intensification requirements, such as fulfilling the expectation that employees respond flexibly to work demands anytime and from anywhere, regardless of any family obligations they might have. Telework involves a greater permeability of the boundaries between work and family life because of a shared location and a higher level of autonomous work organization, which increases the likelihood that employees will work long hours and that work stress will spill over into the family domain (Gajendran & Harrison, 2007; Igarria & Guimaraes, 1999; Lott & Chung, 2016; Standen, Daniels, & Lamond, 1999). This is further exacerbated by highly demanding working conditions for employees who are likely to use telework, namely managers and other employees in high-status positions (Deitch & Huffman, 2001; Glass, 2004; Golden, 2009; Huws, 2000; Kelly & Kalev, 2006; Swanberg, Pitt-Catsouphes, & Drscher-Burke, 2005; Williams, 2010). In addition, telework often raises questions about loyalty and commitment, which motivates employees to signal high degrees of commitment, such as by being constantly available and working long hours (Felstead & Jewson, 2000; Gajendran & Harrison, 2007; McCloskey & Igarria, 2003).

Chung (2017a, p. 3) describes an increase in work intensity due to telework with a gift exchange dynamic

that is, workers work harder to reciprocate for the gift of control over their work their employers have given them; or because workers are better able to work harder and longer due to being able to work when they want; or because of employer enforcement of work intensity through the back door.

Thus, telework is likely to involve high demands, including overtime work, constant availability, and the ability to withstand stress, with the result that teleworkers can fulfil only basic responsibilities in their family life or fulfil such responsibilities only sporadically. For example, employees can use telework to work long hours despite having basic family responsibilities, such as being home for dinner with the family, but this may leave less time, energy, and focus for parent–child interaction or interaction with the partner, because the work must then be carried out afterwards. Moreover, when done during the day, telework is likely to involve interferences with other personal activities and interactions during breaks and to leave little time and energy for family responsibilities due to a greater permeability of the boundaries between work and family life and a greater need to signal a high degree of commitment to work. This is in line with the ideal-worker norm of a worker who has few family obligations and prioritizes work (Acker, 1990; Cha & Weeden, 2014; Hodges & Budig, 2016; Kossek et al., 2010). Given the above, one might say that the demand perspective suggests that the use of telework is associated with higher levels of work–family conflict. Previous research indeed shows that flexible work arrangements such as telework are more likely to be available in high-status occupations with a relatively high level of pay, which often also involve a workplace culture in which employees are expected to be constantly available and work overtime, thus blurring the boundaries between work and family life (Deitch & Huffman, 2001; Glass, 2004; Golden, 2009; Huws, 2000; Kelly & Kalev, 2006; Swanberg et al., 2005; Williams, 2000, 2010). In fact, flexible work arrangements have been found to be associated with working long hours (Burchell et al., 2007; Felstead & Jewson, 2000; Gallie et al., 2012; Gambles et al., 2006; Lott & Chung, 2016; Kelliher & Anderson, 2010).

The following section discusses the role of work–family-supportive and high-demand workplace cultures in shaping whether telework is more likely to be a resource decreasing, or a restriction fostering work–family conflict.

### **THE ROLE OF WORK–FAMILY-SUPPORTIVE AND HIGH-DEMAND WORKPLACE CULTURES IN THE RELATIONSHIP BETWEEN TELEWORK AND WORK–FAMILY CONFLICT**

#### *Differences in Work–Family-Supportive and High-Demand Workplace Cultures*

Telework is negotiated in workplaces that differ in their histories, institutions, and environments as well as in the heterogeneity traits of those who work in them (Abendroth, Melzer, Kalev, & Tomaskovic-Devey, 2017; Den Dulk, 2001;

Kossek, 2010; Tomaskovic-Devey, 2014). Previous research shows that the resulting differences also involve differences in the family-friendliness of workplace cultures (e.g., Allen, 2001; Byron, 2005; Den Dulk, 2001, 2005; Hammer et al., 2009; Kossek et al., 2010). For example, the availability of flexible workplace arrangements which is often labeled as work–family-supportive has been found to differ between the public and private sectors and to be dependent on workplace size and composition (Den Dulk, 2001). It is suggested that different employers have different reasons to offer work–family support (Den Dulk, 2001, 2005). Economic reasons are based on the idea that work–family support is an investment in the employability and productivity of employees who have personal obligations, because it makes it easier for such employees to cope with competing demands in the spheres of work and family life. In addition, work–family support can be an investment with which to attract and retain talented and highly skilled employees, considering that integrating work and family life has become an increasingly important life goal for many employees besides monetary benefits (Den Dulk, 2005; Den Dulk et al., 2012). Employers may also present themselves as family-friendly to gain legitimacy from their environment, such as the state or the general public, but instead of adapting their practices, they may follow their own logics (Brunsson, 2003; Den Dulk, 2005; Den Dulk et al., 2012). Alternative logics to family-friendliness that still prevail in many workplaces are logics that follow the ideal-worker norm – that is, a norm based on an ideal of a worker who prioritizes work and has few non-work obligations (Acker, 1990; Cha & Weeden, 2014; Hodges & Budig, 2016; Kossek et al., 2010; Williams, 2000). The ideal-worker norm results in work environments with high workplace demands and with little supervisor and colleague support for integrating work and family life. Moreover, highly demanding workplace cultures have been attributed to globalized work processes, which are likely to differ across workplaces and jobs – for example, between public and private sectors (Kossek et al., 2010).

*The Role of Work–Family-Supportive and High-Demand Workplace Cultures in the Relationship between Telework and Work–Family Conflict*

That the family-friendliness of the workplace culture, that is, work–family-supportive and high-demand workplace cultures, implies differences in the consequences of the use of telework can be described with the help of the concept of employment relationships as multidimensional social exchange relationships (Coyle-Shapiro & Conway, 2004; Cropanzano & Mitchell, 2005). According to this understanding, employment relationships are more than just a set of gratifications provided in exchange for demands; they involve mutual beliefs, perceptions, mutual evaluations, and informal obligations that are part of the psychological contract on which an employment relationship is based (Rousseau, 1995). Employers and employees are believed to use such perceptions and evaluations to negotiate trade-offs between involvement in family life and commitment to work. Negotiations between the employer and the employee over these expectations do not take place in a neutral environment; rather, they are embedded in specific institutional and cultural settings. Thus, the implications of telework

for work–family conflict are likely to be dependent on the perceived workplace culture. *High-demand workplace cultures* with high expectations on long working hours, constant availability, and the ability to withstand stress have been attributed to the norm of the ideal worker which still prevails and is gratified in many workplaces (Acker, 1990; Cha & Weeden, 2014; Hodges & Budig, 2016; Kossek et al., 2010). The authors argue that perceived high-demand workplace cultures increase the likelihood that the use of telework is associated with higher work–family conflicts. High demand workplace cultures increase the likelihood that the high degree of permeability of the boundaries between work and personal life that results from telework will include negative spillovers from high work stress and strain to the family domain as suggested in the described demand perspective. It is further more likely that employers expect long hours and constant availability in return to granting telework and that employees who do telework are likely to feel additional need to signal commitment in line with the previously described gift-exchange dynamic (Chung, 2017a). *Work–family-supportive cultures*, by contrast, provide teleworkers with additional resources that make it easier for them to integrate their work and family life with the help of telework (Kossek et al., 2010, 2012; Wiebusch et al., 2017). The authors suggest that perceived work–family-supportive workplace cultures increase likelihood that the use of telework is associated with smaller work–family conflicts in line with the previously described resource perspective. Previous research has described supervisor and colleague work–family support as major components of work–family-supportive cultures which decrease the likelihood of work–family conflict (Kossek et al., 2010). It further facilitates a successful practice of telework, because telework requires a cooperative behavior of supervisors, colleagues and the teleworker (Wiebusch et al., 2017). Supervisors must be responsive to teleworkers’ workplace needs and make efforts to actively involve teleworkers in workplace events and processes. Colleagues further need to show understanding for the work–family situation of the teleworker and support the teleworker by coordinating work-tasks in line with the needs of the teleworker or by assuming responsibilities of teleworkers when they are physically absent from the workplace when physical presence is required. Not surprisingly, previous research has shown that telework weakens interpersonal bonds among teleworkers, colleagues, and supervisors, and that additional efforts are necessary to maintain such bonds (Golden, 2006b; Nardi & Whittaker, 2002). Given the above, the following hypotheses are proposed:

*H1.* The use of telework is associated with higher work–family conflicts when employees perceive a high-demand workplace culture.

*H2.* The use of telework is associated with smaller work–family conflicts when employees perceive a work–family-supportive workplace culture.

## DATA AND METHOD

Our analysis is based on a set of linked employer–employee data that were collected as part of the Interactions between Capabilities in Work and Private Life



study (LEEP-B3; see Diewald et al., 2014). The cross-sectional data set used stems from the first wave of that survey, which was conducted in 2012 and 2013. The study design involved employer interviews with experts (mainly human resource managers) at 100 work organizations in various different industries in both the public and private sectors of the German economy that have at least 500 employees who are subject to social security. Among other things, the employer survey collected information about the organizational structure and the benefits provided to employees. A total of 6,454 employees were interviewed using computer-assisted telephone interviewing (CATI). Areas covered by the employee survey included the employees' working conditions and personal lives. Additional information about their work histories and their organizations was derived from linked German administrative social security records and demographic data from the Federal Employment Agency. The American Association for Public Opinion Research response rates were 23.6% for the employer survey and 29.8% for the employee survey. Selectivity tests conducted to compare the sample with the workforce of large German work organizations show that the LEEP-B3 data set is representative of the workers in large work organizations in Germany, in which about 40% of all workers are employed (Destatis, 2014).

After excluding employees who did not give us permission to link their survey and administrative data and adjusting for missing values, the final sample used for hypothesis testing consisted of 4,898 employees.

#### *Ethical Note*

Participants of both the employer and the employee surveys were informed about the purpose of the study and the use of the data (anonymity and voluntariness of participation). At the end of the interview participants were again asked for permission of the use of their answers in the context of the study. As the study was conducted in cooperation with the federal Institute of Employment Research (Institut für Arbeitsmarkt und Berufsforschung, IAB), the study and all procedures were approved by the data security officer of the IAB and the Federal Ministry of Labor and Social Affairs (Bundesministerium für Arbeit und Soziales) in Germany (for a detailed description see Diewald et al., 2014). LEEP-B3 uses a two-stage sampling design. In the first stage, a stratified random sample of establishments with more than 500 employees was drawn out of the universe of establishments in Germany using administrative data of the Institute for Employment Research. Sampling was stratified on region (East and West Germany) and industry sector (NACE Rev. 2, see Eurostat, 2008). Interviews with representatives of these establishments were conducted between April and August 2012 ( $N = 115$ ). In the second stage, employees from all establishments which did not object to an employee survey ( $N = 100$ ) were randomly selected and interviewed ( $N = 6,454$ ). These interviews were conducted as CATI during September 2012 and March 2013. Data access is provided only for scientific research within the framework of the approved project. The authors participated in the designing of the study and the survey, data collection was done by the IAB and the Institute for Social Research and Communication in Germany. In line

with the approved data protection guidelines scientific users have no possibility to link survey data to individual or establishment address data.

### *Measures*

*Work–family conflict:* Work–family conflict was measured using the two dimensions of the work–family conflict scale developed by Carlson, Kacmar, and Williams (2000). The authors use subscales for strain-based and time-based work–family conflict, which results in two dependent variables. The original scale was translated into German for the purposes of this survey, with each subscale being represented by three items (*time-based work–family conflict*: “My work keeps me from my family activities more than I would like,” “The time I must devote to my job keeps me from participating equally in household responsibilities and activities,” and “I have to miss family activities due to the amount of time I must spend on work responsibilities”; *strain-based work–family conflict*: “When I get home from work I am often too frazzled to participate in family activities/responsibilities,” “I am often so emotionally drained when I get home from work that it prevents me from contributing to my family,” and “Due to all the pressures at work, sometimes when I come home I am too stressed to do the things I enjoy”). The items measure how often time-based and strain-based work–family conflict is experienced, ranging from 0 (Never) to 5 (Very often). For each dimension, three items were added to an index ranging from 3 to 15, with higher values indicating higher levels of conflict.

*Telework:* To measure our main independent variable of interest, respondents were asked whether they used telework or whether they worked from home (1 = Yes).

*Workplace resources and demands:* Contractual, agreed-upon working hours were measured as a continuous variable cut to a maximum of 40 hours a week at the upper end of the scale. The distribution of working time was assessed by including whether the employees did shift work on a regular basis (1 = Yes), and whether they worked regularly on Sundays or public holidays (1 = Every Sunday and on public holidays, or at least once a month, 0 = Seasonal, rarely, never). The authors considered whether the respondents had supervising responsibilities (1 = Yes), as well as monthly earnings (logarithmized) and their tenure in the organization, as continuous variables. Education was measured using the Comparative Analysis of Social Mobility in Industrial Nations (CASMIN) classification of education (0 = Inadequately general or basic education, 1 = Intermediate education, and 2 = Tertiary education).

The quantity of overtime was included as a continuous variable, calculated as the difference between actual working hours and contractual, agreed-upon working hours, and cut to a realistic maximum of 30 hours a week at the upper end of the scale. The frequency of overtime was measured as a 6-point categorical variable (0 = Never, 1 = From time to time/seasonal, 2 = Rarely, 3 = Several times per month, 4 = Every week, and 5 = Nearly every day).

Job autonomy (see Breugh, 1985) was measured using three items (“During my working hours, I have control over the sequencing of my work activities,”

“I am allowed to decide how to go about getting my job done,” and “I am able to define what my job objectives are”) and a 5-point scale ranging from 1 (“I totally disagree”) to 5 (“I totally agree”). These values were added to an index ranging from 3 to 15, with higher values indicating greater occupational autonomy.

*High-demand workplace culture:* To capture the workplace culture regarding the expectation of specific work behaviors attributed to a high-demand workplace culture, the authors took into account the employees’ perception of their work organization’s expectations regarding the ability to withstand stress, the willingness to work overtime, and constant availability. Based on their position or on comparable positions within their organization, respondents were asked to rate these three expectations by means of a 5-point scale ranging from 1 (“Not important at all”) to 5 (“Very important”). These three single items are significantly correlated (Pearson correlation coefficient  $> 0.3$ ;  $p < 0.000$ ) and a principal-component factor component analysis confirms that all items load on one factor (“high-demand workplace culture”; Cronbach’s alpha = 0.53). However, since it is theoretically reasonable to consider all aspects equally, the values were added to an index ranging from 3 to 15, with higher values indicating greater high-demand workplace culture.

*Work–family-supportive workplace culture:* To capture positive aspects of employees’ relationships with their colleagues and supervisors, respondents were asked to indicate, on a 5-point scale ranging from “Does not apply at all” to “Applies completely,” whether their supervisors supported employees in their efforts to reconcile work and family life, and whether co-workers helped one another to get their work done when one had to leave early or was late for work for personal reasons.

*Family context:* To control for family context, the employees’ relationship status (0 = Single, 1 = Partner, not married, and 2 = Married), age of the youngest child (metric) and the number of children in the household (0 = No children, 1 = One child, and 2 = Two or more children) were considered.

*Control variables:* To also take into account gender differences in work–family conflict (see e.g., Bianchi & Milkie, 2010; Wharton & Blair-Loy, 2006), the authors included the employees’ gender (1 = Female) as a control variable.

### Methods

To reflect the two-level structure of the data, the authors explore the hypotheses using multilevel linear regression models. Having multiple employees in the same workplace violates the independence assumption in conventional ordinary least squares (OLS) estimators. More precisely, fixed-effects estimations were used because they control for unobserved heterogeneity among workplaces (Rabe-Hesketh & Skrondal, 2012). Estimations are therefore based solely on within-workplace variance. Put more technically, fixed-effects models take as the dependent variable and each independent variable the deviation of the organization-specific value from the overall organizational mean. Standard errors are clustered within workplaces (robust standard errors). The multivariate analyses are structured as follows: A main model was estimated on each instance of strain-based and

time-based work–family conflict, including effects for all independent variables. In a second step, each main model was supplemented by the quantity and frequency of overtime work to capture the distribution of overtime work. The central interaction hypotheses were then tested by including interaction effects (Telework#High-demand workplace culture, Telework#Supervisor support, and Telework#Colleague Support) in the main models on strain-based and time-based work–family conflict, resulting in six interaction models. For better readability, the figures presented in the following are limited to interaction plots for statistically significant interaction models.

## RESULTS

Table 1 reports the means, standard deviations, minimums, and maximums of all study variables, each for employees who either do or do not use telework respectively. 14.4% of employees in the analysis sample (707 employees in absolute numbers) use telework to transfer parts of their working hours to outside the regular workplace. Interestingly, telework is an available alternative of flexible working in almost all studied workplaces. Only in one workplace neither the representative of the workplace nor any employee reported the availability of telework. Employees who use telework have higher mean levels of time-based and strain-based work–family conflict than employees who do not use telework. The mean level of strain-based work–family conflict is higher than that of time-based work–family conflict. Telework is used by employees with a higher level of education, higher monthly earnings, and younger children. However, on average, teleworkers report more overtime hours (6.7 h), which they also work more regularly (59% every day/week), than do non-teleworkers (4.4 h, 46% every day/week). Employees who use telework experience greater high-demand workplace cultures than do employees who do not use telework. On average, teleworkers regard their supervisors as more work–family-supportive than do to non-teleworkers, but they feel slightly less supported by their colleagues.

Table 2 shows significant positive correlations among high-demand workplace culture, telework and both time-based and strain-based work–family conflict. Supervisor and colleague support are negatively correlated with work–family conflict. However, the use of telework is positively correlated with supervisor support but negatively correlated with colleague support. Moreover, the single indicators of high-demand and work–family-supportive workplace cultures are not or only very slightly correlated, suggesting that high-demand and work–family-supportive workplace cultures exist independently of each other.

### *Telework and Work–Family Conflict*

Table 3 shows the results of the multilevel fixed-effects regressions on work–family conflict for time-based and strain-based conflict. Model 1 includes the use of telework, as well as all the workplace and family variables the authors studied. The results show a statistically significant positive effect of telework on time-based work–family conflict ( $\beta = 0.360, p < 0.05$ ), meaning that employees who

**Table 1.** Means and SDs of Study Variables ( $N = 4,898$ ).

Variables	Use of Telework							
	No				Yes			
	Mean	SD	Min	Max	Mean	SD	Min	Max
<i>Work-family conflict</i>								
Time-based	8.26	3.35	3	15	8.84	3.22	3	15
Strain-based	7.61	2.71	3	15	7.86	2.64	3	15
<i>Workplace context</i>								
Contractual working hours	34.92	7.18	5	40	36.17	6.75	3.7	40
Shiftwork regular	0.34	0.48	0	1	0.05	0.22	0	1
Frequent work on Sundays or public holidays	0.28	0.45	0	1	0.19	0.40	0	1
Overtime Diff. contractual/actual working hours	4.40	5.21	0	30	6.68	6.41	0	30
Frequency of overtime								
Never	0.08	0.27	0	1	0.06	0.24	0	1
From time to time, seasonal	0.19	0.39	0	1	0.19	0.40	0	1
Rarely	0.12	0.33	0	1	0.05	0.22	0	1
Several times per month	0.15	0.35	0	1	0.11	0.32	0	1
Every week	0.26	0.44	0	1	0.26	0.44	0	1
Nearly every day	0.21	0.41	0	1	0.33	0.47	0	1
Tenure	8.35	7.68	0.51	36.2	7.02	6.12	0.51	33.76
Supervising responsibilities	0.36	0.48	0	1	0.43	0.49	0	1
Monthly earnings log.	7.99	0.56	4.69	11.74	8.40	0.52	6.86	10.78
CASMIN								
Inadequately/general/basic	0.14	0.35	0	1	0.02	0.13	0	1
Intermediate	0.55	0.50	0	1	0.36	0.48	0	1
Tertiary	0.31	0.46	0	1	0.63	0.48	0	1
Job autonomy	10.39	3.00	3	15	11.93	2.03	3	15
<i>Family context</i>								
Female	0.49	0.50	0	1	0.35	0.48	0	1
Age of youngest child	12.48	6.14	0	44	10.66	5.85	0	44
Number of children								
0 children	0.35	0.48	0	1	0.31	0.46	0	1
1 child	0.21	0.41	0	1	0.20	0.40	0	1
2+ children	0.44	0.50	0	1	0.50	0.50	0	1
Relationship status								
Single	0.18	0.38	0	1	0.10	0.30	0	1
Partner not married	0.24	0.42	0	1	0.23	0.42	0	1
Married	0.58	0.49	0	1	0.67	0.47	0	1
<i>High-demand workplace culture (Index)</i>	10.99	2.19	3	15	11.40	2.07	3	15
<i>Work-family-supportive workplace culture</i>								
Support supervisor	3.93	1.07	1	5	4.17	0.96	1	5
Support colleagues	4.12	1.08	1	5	3.99	1.15	1	5
<i>N</i>	4,191 (85.6%)				707 (14.4%)			

Notes: Differences in means between groups (telework yes/no) are tested using two-sample *t*-tests. All differences in means are statistically significant ( $p < 0.05$ ).

**Table 2.** Correlations of Main Study Variables ( $N = 4,898$ ).

	1	2	3	4	5
1. Time-based work–family conflict	–				
2. Strain-based work–family conflict	0.568*	–			
3. Use of telework	0.062*	0.033*	–		
4. High-demand workplace culture	0.265*	0.242*	0.066*	–	
5. Support supervisor	–0.244*	–0.220*	0.079*	–0.138*	–
6 Support colleagues	–0.138*	–0.166*	–0.041*	–0.012	0.252*

\* $p < 0.05$  (Pearson correlation coefficients).

use telework experience higher levels of time-based work–family conflict than do employees who do not use telework. This indicates that, after controlling for other important workplace demands and resources,<sup>1</sup> telework acts as a demand rather than a resource and prevents rather than promotes a better integration of work and family life. However, if the amount and frequency of overtime work are added to the prediction in Model 1b, the effect of telework decreases and is no longer statistically significant ( $\beta = 0.223$ ,  $p > 0.1$ ). This indicates that teleworkers have higher levels of work–family conflict because they work longer hours and also because they work overtime more often than other employees.

Model 2 estimates similar results for the effect of telework on strain-based work–family conflict. Telework is also statistically significantly associated with higher levels of strain-based work–family conflict ( $\beta = 0.336$ ,  $p < 0.05$ ). However, if the amount and frequency of overtime work are considered in Model 2b, the effect of telework reduces its size but remains significant, based on a 10% significance level, indicating that the implications of telework for strain-based work–family conflict are due in part to working overtime.

The results predicted for the association between other workplace demands and resources with time-based and strain-based work–family conflict are in line with previous studies of job demands and resources (for an overview, see [Allen et al., 2000](#)). Regular shift work, frequent work on Sundays or public holidays, and supervising responsibilities are significantly related to higher levels of both time-based and strain-based work–family conflict. The higher the number of contractual working hours, the higher the levels of work–family conflict. Overtime work is positively related to work–family conflict, which is to say that the more hours an employee works in addition to the contractual agreed-upon working hours, the higher the level of perceived time-based and strain-based work–family conflict. In contrast, higher degrees of job autonomy, as well as higher levels of supervisor and peer support, correlate with lower levels of time-based and strain-based conflict. The results for monthly income show a mixed picture: The higher the monthly income, the higher the level of time-based work–family conflict. However, it is also predicted that the higher the monthly income, the lower the level of strain-based work–family conflict, at least when overtime work is considered. Finally, all models estimate a higher level of work–family conflict for women than for men, even when all other workplace and family variables are controlled for.

**Table 3.** Results of Fixed-Effects Regressions on Work-Family Conflict ( $N = 4,898$ ).

	Time-based work-family conflict				Strain-based work-family conflict			
	(1)		(1b)		(2)		(2b)	
Use of Telework	0.360*	(0.166)	0.223	(0.153)	0.336*	(0.143)	0.244+	(0.137)
<i>Workplace context</i>								
Contractual working hours	0.062***	(0.010)	0.074***	(0.009)	0.046***	(0.007)	0.054***	(0.007)
Shiftwork regular	0.835***	(0.141)	1.038***	(0.139)	0.091	(0.127)	0.243*	(0.122)
Frequent work on Sundays or Public Holidays	1.124***	(0.119)	0.850***	(0.114)	0.381***	(0.107)	0.191*	(0.099)
Tenure	-0.014*	(0.008)	-0.008	(0.007)	-0.002	(0.006)	0.002	(0.006)
Supervising Responsibilities	0.572***	(0.093)	0.352***	(0.090)	0.339***	(0.081)	0.184*	(0.083)
Monthly earnings log.	0.846***	(0.144)	0.443**	(0.144)	-0.053	(0.102)	-0.335**	(0.103)
CASMIN (Ref. Inadequately/general/basic)								
Intermediate	0.205	(0.153)	0.134	(0.147)	-0.024	(0.140)	-0.080	(0.137)
Tertiary	0.725***	(0.185)	0.585**	(0.178)	0.160	(0.171)	0.051	(0.168)
Job autonomy	-0.082***	(0.018)	-0.082***	(0.018)	-0.078***	(0.015)	-0.078***	(0.015)
Supervisor Support	-0.542***	(0.045)	-0.486***	(0.045)	-0.441***	(0.037)	-0.401***	(0.036)
Colleague Support	-0.276***	(0.045)	-0.262***	(0.042)	-0.306***	(0.036)	-0.297***	(0.034)
<i>Family context</i>								
Age of youngest child	-0.022**	(0.008)	-0.026**	(0.008)	-0.002	(0.007)	-0.005	(0.007)
Number of children (Ref. No children)								
1 child	-0.124	(0.141)	-0.019	(0.135)	-0.066	(0.122)	0.009	(0.117)
2+ children	0.068	(0.126)	0.159	(0.122)	0.131	(0.102)	0.198+	(0.102)
Relationship status (Ref. single)								
Partner not married	0.170	(0.137)	0.179	(0.132)	0.128	(0.122)	0.134	(0.122)
Married	0.024	(0.125)	0.003	(0.120)	-0.015	(0.105)	-0.031	(0.101)
Female	0.616***	(0.111)	0.637***	(0.106)	0.823***	(0.097)	0.836***	(0.092)
<i>Overtime</i>								
Overtime Diff. contractual/actual working hours			0.087***	(0.011)			0.057***	(0.010)
Frequency of overtime (Ref. never)								
From time to time, seasonal			0.203	(0.210)			0.212	(0.162)
Rarely			0.086	(0.241)			0.075	(0.186)
Several times per month			0.404*	(0.218)			0.354*	(0.160)
Every week			0.555**	(0.210)			0.454*	(0.181)
Nearly every day			1.065***	(0.221)			0.872***	(0.171)
Constant	2.391*	(1.041)	4.115***	(1.057)	9.545***	(0.779)	10.716***	(0.778)

\* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ , \*\*\*\* $p < 0.001$  and SE in parentheses.

*The Moderating Role of High-Demand and Work–Family-Supportive Workplace Cultures*

To test our hypotheses concerning the influence of work–family-supportive and high-demand workplace cultures on the relationship between telework and work–family conflict, interactions were added to the main models. Of the six interactions, four were statistically significant and are therefore presented as interaction plots (Figs. 1–4), showing the linear predictions of time-based and strain-based work–family conflict under condition of the interaction terms, respectively. Fig. 1 shows that a high-demand workplace culture moderates the association between telework and time-based work–family conflict ( $\beta = 0.132, p < 0.05$ ). The results are similar for the moderation effects on strain-based conflict ( $\beta = 0.114, p < 0.05$ ). Controlling for overtime work (see Table A1) reduces the effect sizes and significance of the interaction effects between telework and high-demand workplace culture but the results remain significant (time-based work–family conflict:  $\beta = 0.091, p < 0.10$ ; strain-based work–family conflict:  $\beta = 0.087, p < 0.05$ ).<sup>2</sup> From this it can be concluded that in high-demand workplace cultures in which employees perceive the willingness to work overtime, constant availability and the ability to withstand stress to be very important, the use of telework is involved with higher levels of work–family conflict than it is for employees in the same workplace who do not use telework. In contrast, employees who perceive no high-demand workplace culture experience less work–family conflict if they use telework in comparison to employees in the same workplace who do not use telework. Furthermore, for employees who perceive a high-demand workplace

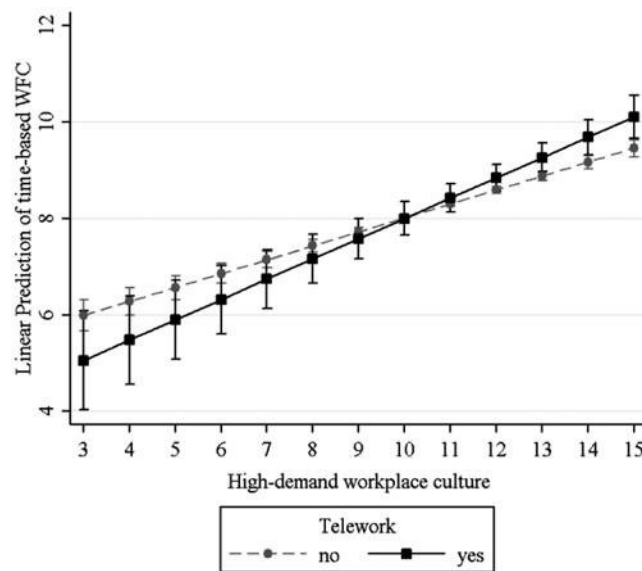


Fig. 15.1. Linear Prediction of Time-Based Work–Family Conflict: Interaction of Telework#High-Demand Workplace Culture.



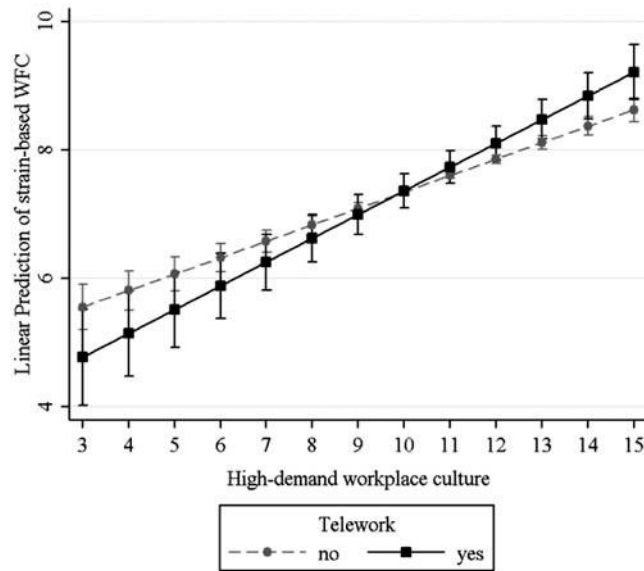


Fig. 15.2. Linear Prediction of Strain-Based Work-Family Conflict: Interaction of Telework#High-Demand Workplace Culture.

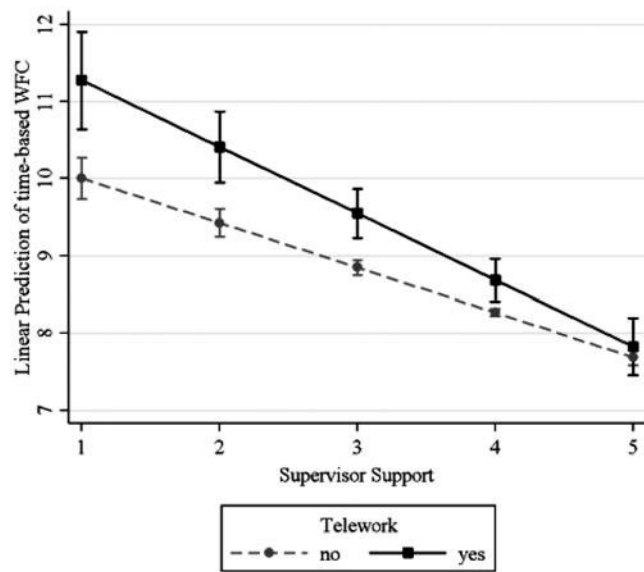


Fig. 15.3. Linear Prediction of Time-Based Work-Family Conflict: Interaction of Telework#Supervisor Support.

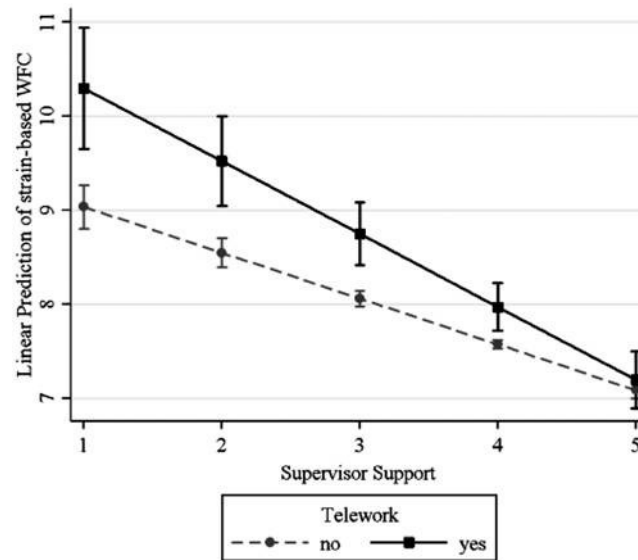


Fig. 15.4. Linear Prediction of Strain-Based Work-Family Conflict: Interaction of Telework#Supervisor Support.

culture in their workplace, the use of telework is associated with higher levels of work-family conflict than it is for teleworkers who work in a less high-demand workplace culture. These findings support *H1*, which states that the use of telework is associated with higher work-family conflicts when employees perceive a high-demand workplace culture.

Finally, *H2* was tested, which states that the use of telework is associated with smaller work-family conflicts when employees perceive a work-family-supportive workplace culture. Figs. 3 and 4 provide insights into the moderating role of supervisor support in the association between telework and time-based and strain-based work-family conflict. Fig. 3 shows that if employees report no or little supervisor support, the use of telework is associated with higher levels of time-based work-family conflict ( $\beta = -0.281, p < 0.05$ ). Instead, a high level of supervisor support involves small differences in the levels of work-family conflict between employees who do and employees who do not use telework in the same workplace. However, the use of telework involves lower levels of work-family conflict when the level of supervisor support is high than when the level of supervisor support is low. Fig. 4 shows a very similar finding for strain-based work-family conflict ( $\beta = -0.288, p < 0.01$ ). Controlling for overtime work (see Table A1) reduces the effect sizes and significance of the interaction effects between telework and supervisor support but the results remain significant (time-based work-family conflict:  $\beta = -0.185, p < 0.05$ ; strain-based work-family conflict:  $\beta = -0.219, p < 0.05$ ). This provides some evidence to support *H2* on the moderating role of work-family-supportive workplace culture. Telework is more likely to be a demand when the level of supervisor support is low, but supervisor support

generally facilitates the integration of work and family life regardless of whether telework is used or not. Interaction effects for colleague support (not shown) were not statistically significant, which means that *H2* is partly supported for supervisor support but not for colleague support.

## DISCUSSION

The aim of this study was to provide new insights in the context dependence of the implications of telework for work–family conflict. Based on a set of representative linked employer–employee data on employees in large work organizations in Germany the authors examined the moderating role of high-demand and work–family-supportive workplace cultures on the relationship between telework and time-based and strain-based work–family conflict. The results indicate that telework involves higher levels of time-based and strain-based work–family conflict when employees perceive the workplace culture to be highly demanding including high expectations on working long hours, being constantly available, and to be able to withstand stress. In contrast, if the work culture is not highly demanding the use of telework is associated with smaller work–family conflicts. The results further show that telework is associated with smaller work–family conflicts when supervisor work–family support, as an indicator of work–family-supportive culture (Kossek et al., 2010), is perceived to be high. Colleague support, however, does not appear to moderate the association between telework with work–family conflict.

The authors conclude that the implications of telework on work–family conflict are indeed context dependent, which has been suggested in existing literature reviews on inconsistent findings on the association of telework with work–family conflict (e.g., Allen et al., 2015; Gajendran & Harrison, 2007).

In line with the demand perspective high-demand workplace cultures, which have been attributed to the ideal worker norm (Acker, 1990; Cha & Weeden, 2014; Hodges & Budig, 2016; Kossek, 2016; Kossek et al., 2010), foster that telework cannot only be used to better integrate work and family demands by employees but also to pursue flexibilization and work intensification interests by employers (e.g., Chung, 2017a, 2017b). If high-demand workplace cultures prevail, telework is likely to involve work intensification which restricts family time and which increases spill overs of work stress and strain to the family. Telework involves a greater permeability of boundaries between work and family and allows employees to work longer hours and to be constantly available for workplace demands. Moreover, high-demand workplace cultures seem to involve a gift exchange dynamic, in which employees who do telework work long hours and particularly hard because they perceive that the employer expects it in exchange of the gift of using telework (Chung, 2017a). This is supported by the finding of this research that overtime work involved in telework partly explains that telework increases work–family conflict. The research results further support conclusions from previous research that shows that employees who have access to telework are likely to be highly educated and to be managers or other employees with high earnings who also often experience highly demanding working conditions (Deitch &

Huffman, 2001; Glass, 2004; Golden, 2009; Huws, 2000; Kelly & Kalev, 2006; Swanberg et al., 2005; Williams, 2000, 2010), and that schedule control increases the likelihood of overtime work (Lott & Chung, 2016).

However, telework can also reduce work–family conflict in line with the resource perspective provided by the job demands–resources approach (e.g., Bakker & Demerouti, 2007), work–family border theory (Clark, 2000) and boundary management theory (Kossek et al., 2006). When the workplace culture is not perceived as highly demanding employees seem to be better able to adapt the timing of work demands to family obligations with the help of telework without experiencing additional stress and strain spilling over to the family.

The results further point to the importance of work–family-supportive workplace cultures for the relationship between telework and work–family conflict. When work–family-supportive workplace cultures are perceived telework does not involve higher levels of work–family conflict, partly because overtime work is not part of telework when supervisor work–family support is readily available. This is in line with previous research that points to the important roles of supervisor support in reducing work–family conflict and for the access to flexible work arrangements (Allen, 2001; Byron, 2005; Hammer et al., 2009; Kossek et al., 2011; Peters & Den Dulk, 2003). It is further in line with the findings of qualitative research by Wiebusch et al. (2017) pointing to the importance of the supervisor in reconnecting the teleworker with the workplace (see Wiebusch et al., 2017). However, supervisor support has no influence on the positive implications of telework either; in fact, if such support is provided, telework has no implications for work–family conflict at all. This suggests that some workplaces are likely to have more general family-friendly workplace cultures, which make it easier to integrate work and family life, even for dual-earner families. Previous research has suggested economic reasons for employers' family-friendliness (e.g., Den Dulk, 2001, 2005; Den Dulk et al., 2012). Investments that support the integration of work and family life improve the productivity of employees with greater family responsibilities, and family-friendliness helps to attract talented and highly skilled individuals.

That colleague support was less important for the association between telework and work–family conflict further suggests that the power and influence of the person in the workplace who provides work–family support seems to determine on whether the supportiveness can protect from negative implications of telework. Usually supervisors have the leading part in whether telework is made possible at all and how telework is implemented in the daily practice. Also previous research points to the importance of power in the workplace based on findings about the role of the supervisor for receiving the possibility to use flexible workplace arrangements (e.g., Blair-Loy & Wharton, 2002). The support from colleagues (e.g., taking over work tasks) might be more important for respondents who do not use telework and who have to leave earlier due to unpredictable family responsibilities.

The presented research opens new questions for future research. In this research the respective importance of high-demand and work–family-supportive cultures for the association between telework and work–family conflict was investigated

independently from each other. The significantly low correlations of the high-demand and work–family-supportive cultures indicate that high-demand work cultures do not necessarily imply little work–family support in the workplace. Therefore, it is possible that employees who perceive their workplace as highly demanding still get a lot of work–family support from their supervisors and colleagues, so that the negative and positive effects of these cultures on work–family conflict offset one another in the end. How these cultures interrelate is an important question for future research. To understand whether and under which conditions telework can be used to better integrate work and family life, the authors suggest asking in future research whether there are packages of specific workplace cultures that promote positive implications of telework for work–family integration and how they interrelate with other workplace institutions.

This research further highlighted the importance of perceived workplace culture for the association between telework and work–family conflict irrespectively of other personal, family and work characteristics. Future research is required to investigate how the conclusions from this research vary between heterogenous employees. For example, the results show that women have larger work–family conflicts as compared to men. Future research should further discuss the idea that women’s experience of work–family conflict is especially sensitive to the interplay of the use of telework and perceived workplace culture. For example, [Lott and Chung \(2016\)](#) found that men but not women benefit from flexible workplace arrangements with regard to earnings.

Despite the important contributions of our results, this study has its limitations. First, the results are based on data at one point of time including the typical drawbacks of cross-sectional research. This is particularly relevant regarding reversed causality since previous research has suggested reciprocal effects of work–family conflict and strain ([Nohe, Meier, Sonntag, & Michel, 2015](#)). Thus, future research in this area should use a longitudinal design to study the relationship between telework and work–family conflict in order to determine the causal direction of this relationship. Second, this research was also unable to differentiate the amounts of telework that the respondents performed, which would allow for a more nuanced approach to the implications of telework for work–family conflict and their dependence on high-demand and work–family-supportive workplace culture. Third, even though current work–family literature calls for measuring workplace phenomena at the organizational level ([Allen & Martin, 2017](#)), workplace culture was measured only at the individual level. However, this individual level information did not only vary between workplaces but also within workplaces suggesting that work–family-supportive and high-demand culture are likely to differ between sub-divisions of workplaces. Therefore, the results provide evidence that for the individual experience of workplace cultures an overall measure at the organizational level would overlook differences in the perception of the working life of employees in the same workplace.

Overall, the findings show how important it is to implement telework in a way that not only accommodates employers’ interest in flexibilization, but that it also makes it possible to reconcile work with a family life that involves moderate to high levels of responsibility. Developments in digital technology are likely

to further contribute to the spread of telework, which will involve a variety of different ways of working outside the regular office, not only at home but also in other places or while traveling. However, increases in work intensification will also increasingly give rise to concerns that such work arrangements will cause more conflict between work and family life in the future.

## ACKNOWLEDGMENTS

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## NOTES

1. Additional multilevel fixed-effects regression models were estimated on work–family conflict controlling for occupation and occupational status. As neither the direct effects of telework nor the moderation effects changed significantly, these results are not shown.

2. As a sensitivity analysis the three components of the high-demand workplace culture were also analyzed separately. Especially the perceived expectation on working overtime and the expectation to withstand stress were important moderators of the association between telework and work–family conflict.

## REFERENCES

- Abendroth, A.-K., & den Dulk, L. (2011). Support for the work–life balance in Europe: The impact of state, workplace and family support on work–life balance satisfaction. *Work, Employment and Society, 25*, 234–256. doi:10.1177/0950017011398892
- Abendroth, A.-K., Melzer, S. M., Kalev, A., & Tomaskovic-Devey, D. (2017). Women at work: Women’s access to power and the gender earning gap. *ILR Review, 70*, 190–222. doi:10.1177/0019793916668530
- Abendroth, A.-K., Van der Lippe, T., & Maas, I. (2012). Social support and the working hours of employed mothers in Europe: The relevance of the state, the workplace, and the family. *Social Science Research, 41*(3), 581–597. doi:10.1016/j.ssresearch.2011.12.008
- Acker, J. (1990). Hierarchies, jobs, bodies: A theory of gendered organizations. *Gender & Society, 4*, 139–158. doi:10.1177/089124390004002002
- Allen T. D. (2001). Family supportive work environments: The role of organizational perceptions. *Journal of Vocational Behavior, 58*(3), 414–435. doi:10.1006/jvbe.2000.1774
- Allen, T. D., Golden, T. D., & Shockley, K. M. (2015). How effective is telecommuting? Assessing the status of our scientific findings. *Psychological Science in the Public Interest, 16*(2), 40–68. doi:10.1177/1529100615593273
- Allen, T. D., Herst, D. E. L., Bruck, C. S., & Sutton, M. (2000). Consequences associated with work-to-family conflict: A review and agenda for future research. *Journal of Occupational Health Psychology, 5*(2), 278–308. doi:10.1037/1076-8998.5.2.278
- Allen, T. D., & Martin, A. (2017). The work–family interface: A retrospective look at 20 years of research in JOHP. *Journal of Occupational Health Psychology, 22*(3), 259–272. doi:10.1037/ocp0000065
- Bailyn, L. (2006). *Breaking the mold: Redesigning work for productive and satisfying lives*. Ithaca, NY: Cornell University Press.
- Bakker, A. B., & Demerouti, E. (2007). The job demands–resources model: State of the art. *Journal of Managerial Psychology, 22*, 309–328. doi:10.1108/0268394071073311

- Bakker, A. B., Demerouti, E., & Verbeke, W. (2004). Using the job demands–resources model to predict burnout and performance. *Human Resource Management, 43*, 83–104. doi:10.1002/hrm.20004
- Behson, S. J. (2005). The relative contribution of formal and informal organizational work–family support. *Journal of Vocational Behavior, 66*, 487–500. doi:10.1016/j.jvb.2004.02.004
- Bianchi, S. M., & Milkie, M. A. (2010). Work and family research in the first decade of the 21st century. *Journal of Marriage and Family, 72*(3), 705–725. doi:10.1111/j.1741-3737.2010.00726.x
- Blair-Loy, M., & Wharton, A. S. (2002). Employees' Use of Work-Family Policies and the Workplace Social Context. *Social Forces 80*(3), 813–845. doi:10.1353/sof.2002.0002
- Breaugh, J. A. (1985). The measurement of work autonomy. *Human Relations, 38*(6), 551–570. doi:10.1177/001872678503800604
- Brunsson, N. (2003). Organised hypocrisy. In B. Czarniawska, & G. Sevón (Eds.), *The Northern Lights: Organization theory in Scandinavia* (pp. 201–215). Copenhagen: Copenhagen Business School Press.
- Burchell, B., Fagan, C., O'Brien, C., & Smith, M. (2007). *Working conditions in the European Union: The gender perspective*. Dublin, Ireland: Eurofond.
- Byron, K. (2005). A meta-analytic review of work–family conflict and its antecedents. *Journal of Vocational Behavior, 67*(2), 169–198. doi:10.1016/j.jvb.2004.08.009
- Carlson, D. S., Kacmar, K. M., & Williams, L. J. (2000). Construction and Initial Validation of a Multidimensional Measure of Work–Family Conflict. *Journal of Vocational Behavior, 56*(2), 249–276. doi:10.1006/jvbe.1999.1713
- Cha, Y., & Weeden, K. (2014). Overwork and the slow convergence in the gender wage gaps. *American Sociological Review, 79*(3), 457–484. doi:10.1177/0003122414528936
- Chung, H. (2017a). National-level family policies and worker's access to schedule control in a European comparative perspective: Crowding out or in, and for whom? *Journal of Comparative Policy Analysis: Research and Practice*. doi:10.1080/13876988.2017.1353745
- Chung, H. (2017b). 'Women's work penalty' in access to flexible working arrangements across Europe. *European Journal of Industrial Relations*. doi:10.1177/0959680117752829
- Clark, S. C. (2000). Work/family border theory: a new theory of work/family balance. *Human Relations, 53*, 747–770. doi: 10.1177/0018726700536001
- Coyle-Shapiro, J. A.-M., & Conway, N. (2004). The employment relationship through the lens of social exchange. In J. A.-M. Coyle-Shapiro, L. M. Shore, M. S. Taylor, & L. E. Tetrick (Eds.), *The employment relationship: Examining psychological and contextual perspectives* (pp. 5–28). Oxford: Oxford University Press.
- Cropanzano, R., & Mitchell, M. S. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management, 31*(6), 874–900. doi:10.1177/0149206305279602
- Deitch, C. H., & Huffman, M. L. (2001). Family responsive benefits and the two-tiered labor market. In R. Hertz & N. L. Marshall (Eds.), *Working families: The transformation of the American home* (pp. 103–130). Berkeley, CA: University of California Press.
- Demerouti, E., Bakker A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands–resources model of burnout. *Journal of Applied Psychology, 86*(3), 499–512. doi:10.1037/0021-9010.86.3.499
- Den Dulk, L. (1999). Work-Family Arrangements in the Netherlands. The Role of Employers. In L. Den Dulk, J. v. Doorne-Huiskes, & J. J. Schippers (Eds.), *Work-Family Arrangements in Europe* (pp. 21–40). Amsterdam: Thela Thesis.
- Den Dulk, L. (2001). *Work–family arrangements in organisations: A cross-national study in the Netherlands, Italy, the United Kingdom and Sweden*. Amsterdam, Netherlands: Rozenberg.
- Den Dulk, L. (2005). Workplace work–family arrangements: A study and explanatory framework of differences between organizational provisions in different welfare states. In S. A. Y. Polemans (Ed.), *Work and family: An international research perspective* (pp. 211–238). Mahwah, NJ: Lawrence Erlbaum Associates.
- Den Dulk, L., & Peper, B. (2007). Working parents' use of work–life policies. *Sociologia, Problemas e Práticas, 53*, 51–70.
- Den Dulk, L., Peters, P., & Poutsma, E. (2012). Variations in adoption of workplace work–family arrangements in Europe. *The International Journal of Human Resource Management, 23*(13), 2785–2808. doi:HYPERLINK “https://doi.org/10.1080/09585192.2012.676925” 10.1080/09585192.2012.676925

- Destatis. (2014). Mehr als 60 % der tätigen Personen arbeiten in kleinen und mittleren Unternehmen [More than 60% of employees work in small or medium-sized companies]. Retrieved from [https://www.destatis.de/DE/ZahlenFakten/GesamtwirtschaftUmwelt/UnternehmenHandwerk/KleineMittlereUnternehmenMittelstand/Aktuell\\_.html](https://www.destatis.de/DE/ZahlenFakten/GesamtwirtschaftUmwelt/UnternehmenHandwerk/KleineMittlereUnternehmenMittelstand/Aktuell_.html)
- Diewald, M., Schunck, M., Abendroth, A.-K., Melzer, S. M., Pausch, S., Reimann M., & Andernach, B. (2014). The Sfb882-B3 linked employer–employee panel survey (LEEP-B3). *Schmollers Jahrbuch, [Schmollers Yearbook]*, 134(3), 379–389. doi:10.3790/schm.
- Eurostat. (2008). *NACE Rev 2: Statistical classification of economic activities in the European Community*. Luxembourg: European Commission.
- Fasang, A. E., Huinink, J., & Pollmann-Schult, M. (2016). Aktuelle Entwicklungen in der deutschen Familiensoziologie: Theorien, Daten, Methoden [Current developments in German Family Sociology: Theories, Data Methods]. *Zeitschrift für Familienforschung [Journal of Family Research]*, 28(1), 112–143.
- Felstead, A., & Jewson, N. (2000). *In work, at home: Towards an understanding of homeworking*. New York, NY/London: Routledge.
- Gajendran, R. S., & Harrison, D. A. (2007). The good, the bad, and the unknown about telecommuting: Meta-analysis of psychological mediators and individual consequences. *Journal of Applied Psychology*, 92, 1524–1541. doi:10.1037/0021-9010.92.6.1524
- Gallie, D., Zhou, Y., Felstead, A., & Green, F. (2012). Teamwork, skill development and employee welfare. *British Journal of Industrial Relations*, 50(1), 23–46. doi:10.1111/j.1467-8543.2010.00787.x
- Gambles, R., Lewis, S., & Rapport, R. (2006). *The myth of work–life balance: The challenge of our time for men, women, and societies*. Hoboken, NJ: John Wiley and Sons.
- Glass, J. (2004). Blessing or curse? Work–family policies and mother’s wage growth over time. *Work and Occupations*, 31(3), 367–394. doi:10.1177/0730888404266364
- Golden, L. (2009). Flexible daily work schedules in U.S. Jobs: Formal introductions needed. *Industrial Relations*, 48, 27–54.
- Golden, T. D. (2006). The role of relationships in understanding telecommuter satisfaction. *Journal of Organizational Behavior*, 27, 319–340. doi:10.1002/job.369
- Goh, Z., Ilies, R., & Wilson, K. S. (2015). Supportive supervisors improve employees’ daily lives: The role supervisors play in the impact of daily workload on life satisfaction via work–family conflict. *Journal of Vocational Behavior*, 89, 65–73. doi:10.1016/j.jvb.2015.04.009
- Greenhaus J. H., & Beutell, N. J. (1985). Sources of conflict between work and family roles. *Academy of Management Review*, 10(1), 76–88. Retrieved from <http://www.jstor.org/stable/258214>
- Hammer, L., Kossek, E., Yragui, N., Bodner, T., & Hanson, G. (2009). Development and validation of a multidimensional scale of family supportive supervisor behaviors (FSSB). *Journal of Management*, 35, 837–856. doi:10.1177/0149206308328510
- Hodges, J. M., & Budig, M. J. (2016). Who gets the daddy bonus? Organizational hegemonic masculinity and the impact of fatherhood on earnings. *Gender & Society*, 24(6), 717–745. doi:10.1177/0891243210386729
- Huws, U. (2000). *Equality and telework in Europe*. Brussels, Belgium: European Commission.
- Igbaria, M., & Guimaraes, T. (1999). Exploring differences in employee turnover intentions and its determinants among telecommuters and non-telecommuters. *Journal of Management Information Systems*, 16(1), 147–164. doi:10.1080/07421222.1999.11518237
- Kelliher, C., & Anderson, D. (2010). Doing more with less? Flexible working practices and the intensification of work. *Human Relations*, 63(1), 83–106. doi:10.1177/0018726709349199
- Kelly, E. L., & Kalev, A. (2006). Managing flexible work arrangements in US organizations: formalized discretion or ‘a right to ask’. *Socio-Economic Review*, 4(3), 379–416. doi:10.1093/ser/mwl001
- Kossek, E. E. (2016). Managing work–life boundaries in the digital age. *Organizational Dynamics*, 45(3), 258–270. doi:10.1016/j.orgdyn.2016.07.010
- Kossek, E. E., & Lautsch, B. A. (2012). Work-family boundary management styles in organizations: A cross-level model. *Organizational Psychology Review*, 2(2), 152–171. doi: 10.1177/2041386611436264
- Kossek, E. E., Lautsch, B. A., & Eaton, S. C. (2006). Telecommuting, control, and boundary management: Correlates of policy use and practice, job control, and work–family effectiveness. *Journal of Vocational Behavior* 68(2), 347–367. doi:10.1016/j.jvb.2005.07.002



- Kossek, E. E., Lewis, S., & Hammer, L. B. (2010). Work–life initiatives and organizational change: Overcoming mixed messages to move from the margin to the mainstream. *Human Relations*, *63*(1), 3–19. doi:10.1177/0018726709352385
- Kossek, E. E., Pichler, S., Bodner, T., & Hammer, L. B. (2011). Workplace social support and work–family conflict: A meta-analysis clarifying the influence of general and work–family-specific supervisor and organizational support. *Personnel Psychology*, *64*(2), 289–313. doi:10.1111/j.1744-6570.2011.01211.x
- Lautsch, B. A., Kossek, E. E., & Eaton, S. C. (2009). Supervisory approaches and paradoxes in managing telecommuting implementation. *Human Relations*, *62*(6), 795–827. doi:10.1177/0018726709104543
- Lott, Y. (2015). Working time flexibility and autonomy. A European perspective. *European Journal of Industrial Relations*, *21*(3), 259–274. doi:10.1177/0959680114543604
- Lott, Y., & Chung, H. (2016). Gender discrepancies in the outcomes of schedule control on overtime hours and income in Germany. *European Sociological Review*, *32*(6), 752–765. doi:10.1093/esr/jcw032
- McCloskey, D. W., & Igbaria, M. (2003). Does “out of sight” mean “out of mind”? An empirical investigation of the career advancement prospects of telecommuters. *Information Resources Management Journal*, *16*(2), 19–34. doi:10.4018/irmj.2003040102
- Meyer, T. (2011). Private Lebensformen im Wandel [Changing private ways of life]. In R. Geißler (Ed.), *Die Sozialstruktur Deutschlands [Social Structure in Germany]* (pp. 331–357). Wiesbaden: VS Verlag für Sozialwissenschaften. doi:10.1007/978-3-531-92055-9\_15
- Nohe, C., Meier, L. L., Sonntag, K., & Michel, A. (2015). The chicken or the egg? A meta-analysis of panel studies of the relationship between work–family conflict and strain. *Journal of Applied Psychology*, *100*(2), 522–536. doi:10.1037/a0038012
- Nardi, B., & Whittaker, S. (2002). The Place of Face to Face Communication in Distributed Work. In P. Hinds, & S. Kiesler (Eds.), *Distributed Work* (pp. 83–110). Cambridge: MIT Press.
- Peters, P., & Den Dulk, L. (2003). Cross cultural differences in managers’ support for home-based telework. A theoretical elaboration. *Journal of Cross Cultural Management*, *3*, 329–346. doi:10.1177/1470595803003003005
- Rabe-Hesketh, S., & Skrondal, A. (2012). *Multilevel and Longitudinal Modeling using Stata*. College Station, TX, Stata Press.
- Rousseau, D. M. (1995). *Psychological contracts in organizations: Understanding written and unwritten agreements*. Thousand Oaks, CA: Sage.
- Standen, P., Daniels, K., & Lamond, D. (1999). The home as a workplace: Work–family interaction and psychological well-being in telework. *Journal of Occupational Health Psychology*, *4*(4), 368–381. doi:10.1037/1076-8998.4.4.368
- Swanberg, J., Pitt-Catsouphes, M., & Drscher-Burke, K. (2005). A question of justice: Disparities in employees’ access to flexible schedule arrangements. *Journal of Family Issues*, *6*, 866–895. doi:10.1177/0192513X05277554
- Tomaskovic-Devey, D. (2014). The relational generation of workplace inequalities. *Social Currents*, *1*(1), 51–73. doi:1177/2329496513514032
- Treas, J., & Drobniè, S. (2010). *Dividing the domestic: Women, men and household work in cross-national perspective*. Stanford, CA: Stanford University Press.
- Wharton, A. S., & Blair-Loy, M. (2006). Long work hours and family life: A cross-national study of employees’ concerns. *Journal of Family Issues*, *27*(3), 415–436. doi:10.1177/0192513X05282985
- Wiebusch, M., Den Dulk, L., & Abendroth, A.-K. (2017). Towards a successful practice of teleworking within a formalized context. The central role of flexibility and social support for realizing individual and organizational needs. Presentation at Community, Work and Family Conference, Milan, Italy.
- Williams, J. (2010). *Reshaping the work–family debate: Why men and class matter*. Cambridge, MA: Harvard University Press.

## APPENDIX

**Table A1.** Results of Fixed-Effects Regressions on Work–Family Conflict: Interaction Effects ( $N = 4,898$ ).

	WFC Time-Based	WFC Time-Based + Overtime	WFC Strain-Based	WFC Strain-Based + Overtime
<i>High-demand workplace culture</i>				
Use of telework	-1.327* (0.707)	-0.951+ (0.712)	-1.124* (0.558)	-0.868+ (0.554)
High-demand (Index)	0.289*** (0.021)	0.221*** (0.022)	0.256*** (0.022)	0.210*** (0.023)
Telework # High-demand	0.132* (0.058)	0.091+ (0.058)	0.114* (0.050)	0.087* (0.049)
<i>Work–family-supp. workplace culture</i>				
Supervisor support				
Use of telework	1.542** (0.463)	1.008* (0.446)	1.549** (0.469)	1.169** (0.451)
Supervisor support	-0.581*** (0.045)	-0.532*** (0.046)	-0.486*** (0.039)	-0.452*** (0.040)
Telework # Support	-0.281** (0.114)	-0.185* (0.110)	-0.288** (0.108)	-0.219* (0.105)
Colleague support				
Use of telework	0.357 (0.550)	0.141 (0.515)	0.193 (0.506)	0.041 (0.474)
Colleague support	-0.402*** (0.042)	-0.376*** (0.041)	-0.415*** (0.036)	-0.396*** (0.036)
Telework # Support	-0.009 (0.134)	0.009 (0.124)	0.027 (0.120)	0.041 (0.111)

Notes: Interaction models control for all other study variables.

\* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ , \*\*\*\* $p < 0.001$  (one-sided test for directed hypotheses) and SE in parentheses.